EUCOM WebCOP

Lightweight Collaborative Whiteboard (LCW)

interactive Collaborative Information Transfer Environment (iCITE)

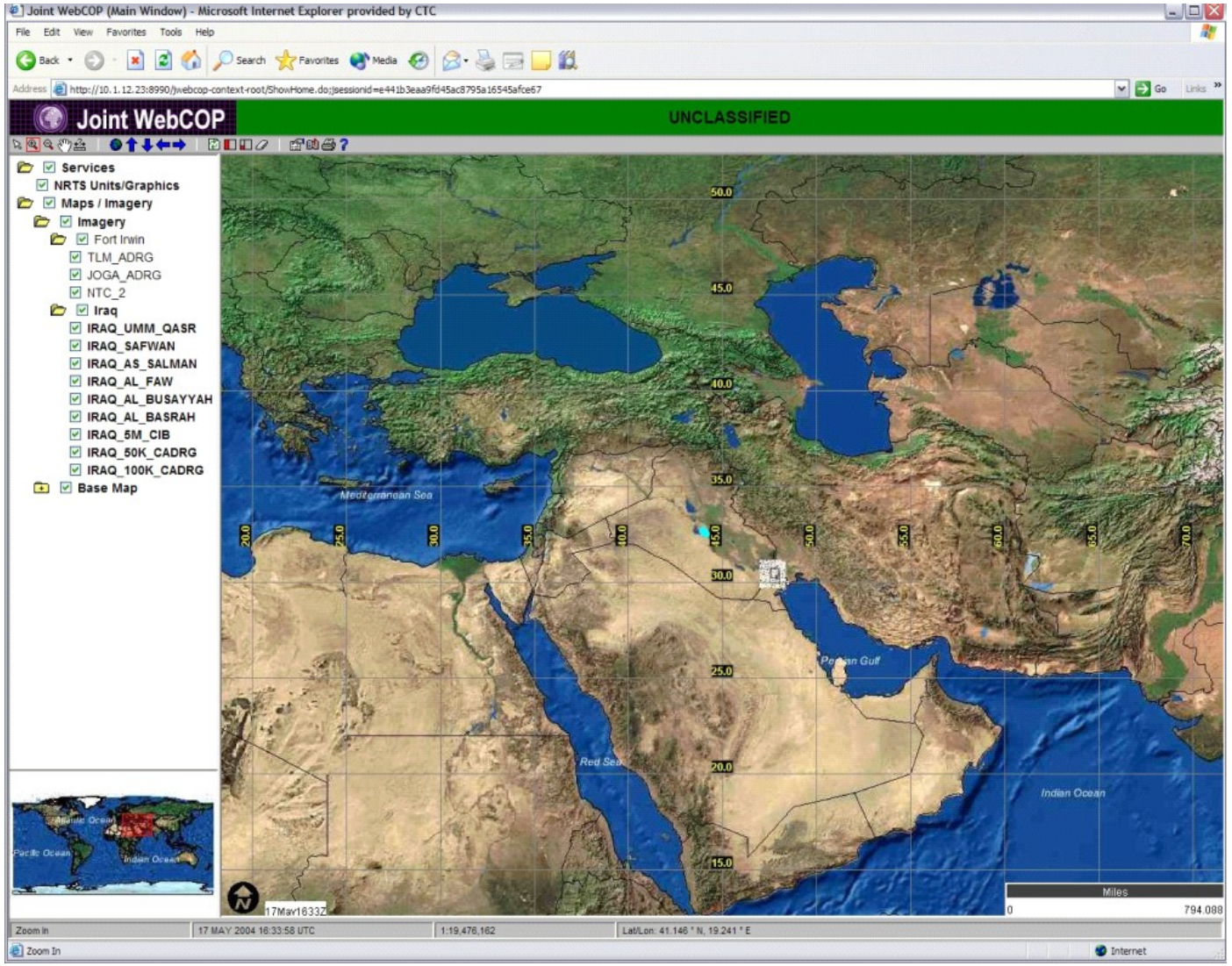
MAJ Kris Ellis, 09 March 2005

MITRE

ellisk@eucom.mil, DSN 312-430-8330

© 2004 The MITRE Corporation. All rights reserved

Joint WebCOP



© 2004 The MITRE Corporation. All rights reserved

“I Want”

- **I want to access the COP using a web-browser … and don’t talk to me about ELVIS (the Enhanced Linked Virtual Information System), because I don’t like it … or C2PC, because I don’t have the time for Ninja training … and I want the maps to look and feel like FalconView … and I want to be able to draw on the screen like John Madden … and I want to be able to hyperlink to information like files, pictures, briefings, and websites … and I want to be able to create and archive overlays, and import/export overlays from C2PC … and I want the full-range of Military Standard 2525B symbology, to include the MOOTW symbols for hijackings, safe houses, and grafitti … Oh, and I want a live COP display on the CIE Portal, too.**

- **And, I want it <u>now</u>.**

© 2004 The MITRE Corporation. All rights reserved

EUCOM Objectives/Guidelines

- **Integrate advanced GIS (Geospatial Information Systems) technologies, information management solutions, and Internet technologies to create a scaleable Web-based solution for viewing the COP**
- **Display relevant data, including maps, intelligence information, assets, and live feed data in a space that incorporates position, orientation, and time**
- **Use industry and government standards, such as Microsoft .NET and the Commercial/Joint Mapping Toolkit (C/JMTK) components**
- **Base the design on a 'thin client' model where web pages are composed strictly of HTML, Java Script, and W3C standards**
- **Ensure the server is built with the ability to host multiple web applications**
- **Since viewing the COP in an Internet/Intranet environment requires the transfer of a large amount of geographic data to the client, minimize the amount and frequency of data sent by sending only event objects and not forcing a refresh of the entire display when not necessary**
- **Ensure that the storage and dissemination of Joint WebCOP data, including maps, imagery and data service layers, is fast and efficient: ensure the data is stored in an Enterprise GeoDatabase using ArcSDE (this will also provide a common data model and interoperability mechanism within the architecture, and a high performance repository of GIS data that is capable of efficiently handling a large number of concurrent users)**
- **Use an open architecture, compatible with Open GIS Consortium (OGC) standards; provide the ability for external systems to retrieve maps and data using Web Map Server (WMS) and Web Feature Server (WFS) standards**
- **Incorporate the ability to display MIL-STD-2525B symbology**
- **Provide a series of core Web services: Whiteboard service, External data feeds service, Error handling service, Text Chat service, Mapping service, Time service, Directory service, and Security service**

© 2004 The MITRE Corporation. All rights reserved

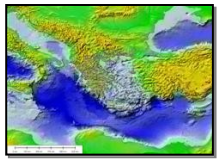
Lightweight Collaborative Whiteboard (LCW)

- **LCW is a MITRE Technology Program Initiative**
  - **Army sponsored research**
  - **DISA JC2 Sponsor, Mark Kuzma**
  - **DISA NCES and HLS supported**
- **Objective: Investigate and learn how net centric operations might be achieved, and address current operational shortfalls:**
  - **Collaboration on dynamic operational pictures**
  - **Deployment via a URL with access control, user markup identification, and dynamic feel**
  - **Robustness across security perimeters and disrupted communications**
- **Approach:**
  - **Build a functional browser-based whiteboard**
  - **Enable access-controlled, geospatially-aware services (i.e. Common Operational Picture)**
  - **Assess in DoD Operational Trials**

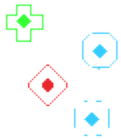
© 2004 The MITRE Corporation. All rights reserved

What does LCW bring to the table?

Robust Web Dissemination



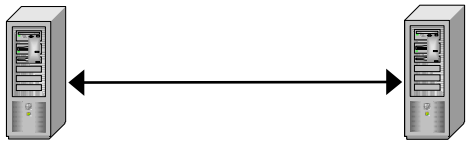
Dynamic Maps



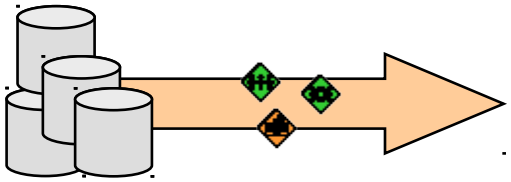
COP Tracks

MIDB

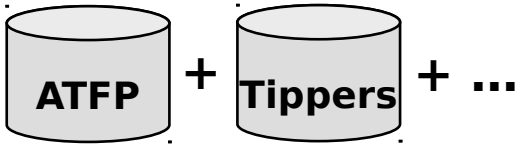
Markup & Collaboration



Server to Server Exchanges – Web Services



Auto-push of data – simplifies user's job

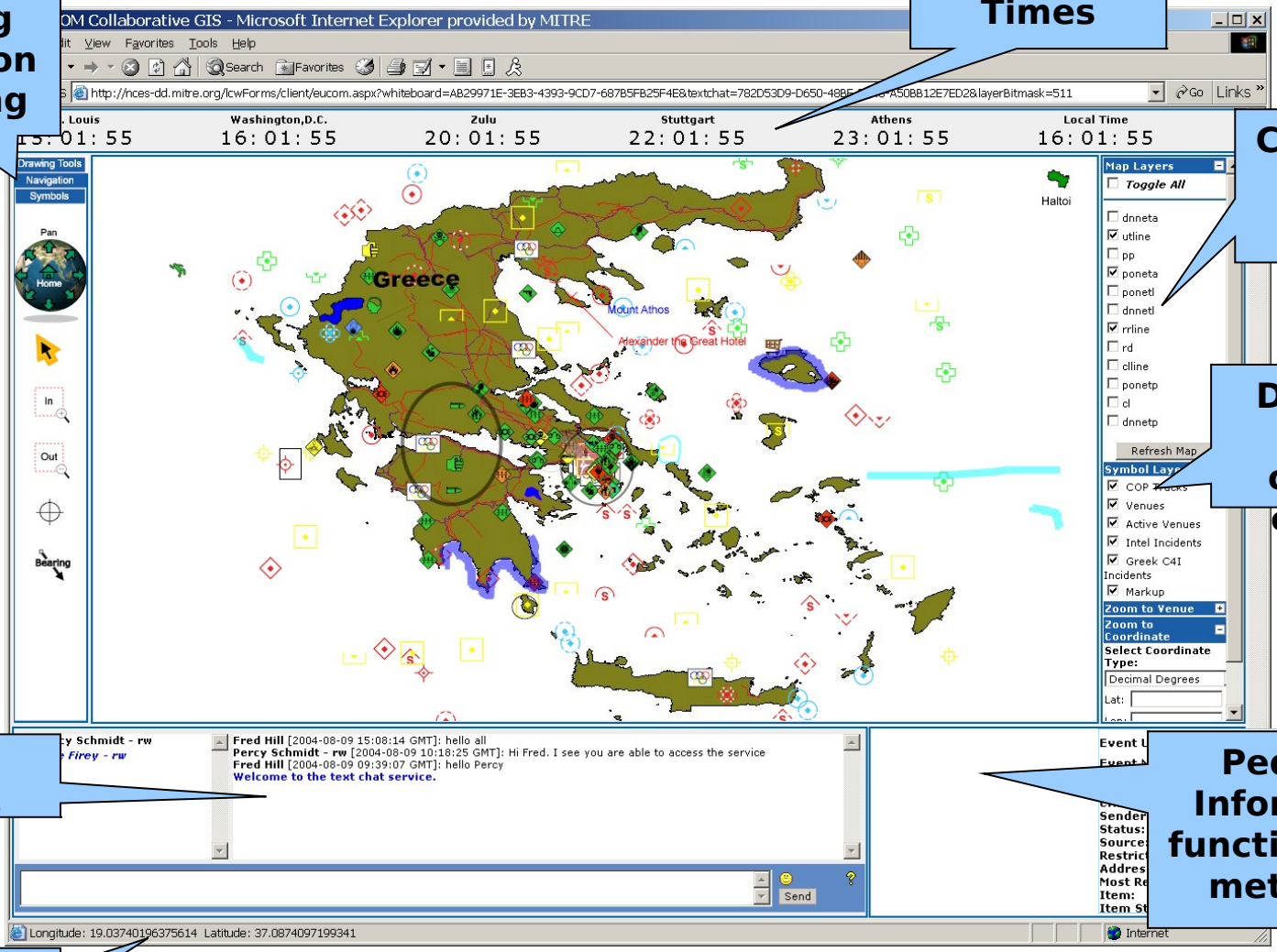


Flexibility to add/remove data sources

Open Standards – Web Services, SVG

© 2004 The MITRE Corporation. All rights reserved

Collaborative Geospatial Information Service



© 2004 The MITRE Corporation. All rights reserved

Current Status at EUCOM

- **Integrated into the CIE portal**
- **Functionality:**
  - **Dynamic operational/intelligence data in a web browser client**
  - **Live web mapping**
  - **Smart push of data to users**
  - **Whiteboard markup & collaboration**
  - **Integrated text chat capability**
- **Dynamic Data feeds:**
  - **Mapping displays**
  - **COP tracks**
  - **MIDB events**

© 2004 The MITRE Corporation. All rights reserved

Open Actions

- **Functional**
  - **Harden track services: e.g., declutter (MITRE reachback – 3 months)**
  - **Finalize MIDB interface – Facilities/Units (MITRE onsite support – 2 weeks)**
  - **Add IPL footprint interface (MITRE onsite support – 3 weeks)**
  - **Add Personnel database interface (MITRE onsite support – 2 weeks)**
  - **Examine potential J4 logistics data incorporation (TBD)**
  - **Incorporate robust overlay capability (MITRE reachback – 3 months)**
  - **Continue data source integration (MITRE onsite support – 3 months)**
    - **Intelligence Tipper Data**
    - **Anti-Terrorism / Force Protection Database**
    - **Counter-Terrorism Data (security permitting)**
- **Technical**
  - **Procure/configure a new server to support Theater-wide users**

© 2004 The MITRE Corporation. All rights reserved

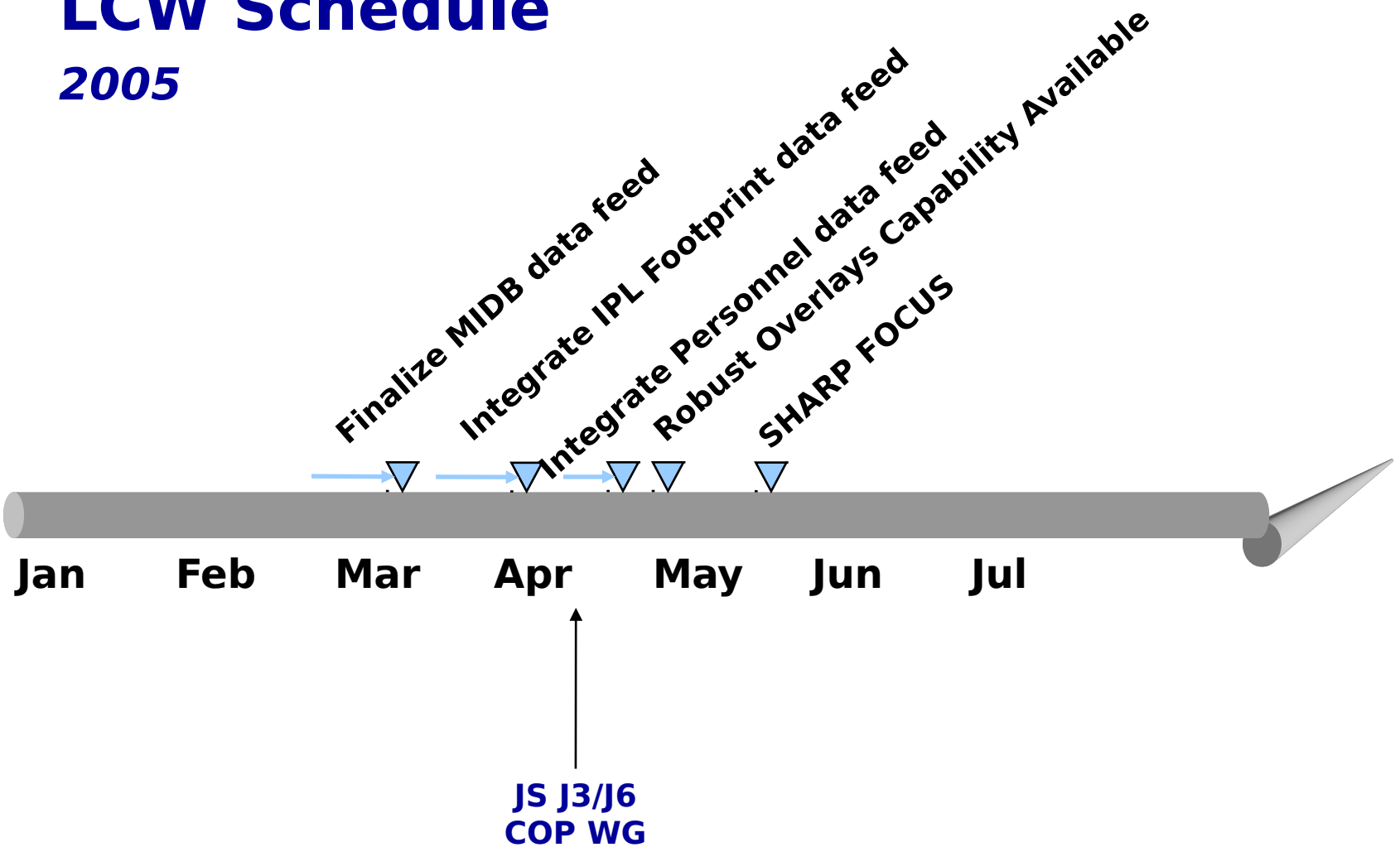
“Programmatics”

- **EUCOM:**
  - **POC: Maj Kris Ellis, ellisk@eucom.mil**
- **DISA Net Centric Capabilities Pilot (NCCP):**
  - **POC: Mark Kuzma, mark.kuzma@ncr.disa.mil**
- **NORTHCOM; Homeland Security/Defense (HLS/D) C2 ACTD**
  - **POC: Brian Reily, brian.reily@navy.mil**
- **Joint Staff J3/J6 COP Working Group demonstration in APR 05**
- **Install LCW software on the Joint Worldwide Intelligence Communications System (JWICS)**
- **Investigate LCW integration with Portal technologies on JWICS to demonstrate personalized intelligence web portals**
- **MITRE working integration into GCCS program – targeting GCCS 4.x release**
  - **POC: LTC Michael Theodoss, theodosm@ncr.disa.mil**

© 2004 The MITRE Corporation. All rights reserved

LCW Schedule

2005



© 2004 The MITRE Corporation. All rights reserved

Discussion

MITRE

© 2004 The MITRE Corporation. All rights reserved

Scaling Functionality Across Devices

Scaling to client device capabilities

- Display support
- Computing capacity
- Bandwidth availability
- Protocol use

Surveylab ike

Geospatially located reporting

Smartphon e

GPS (location)
Reduced operational picture

?

?

WAP ?

Browser (native SVG)

LCW services

SOAP
remote scripting
XLets

Web Service Proxy and Client Package

Browser (SVG plugin)

LCW services

socket

HTTP(S)

UDP
TCP

Thick client

LCW services
Local imagery/maps

© 2004 The MITRE Corporation. All rights reserved

Deployment Challenge

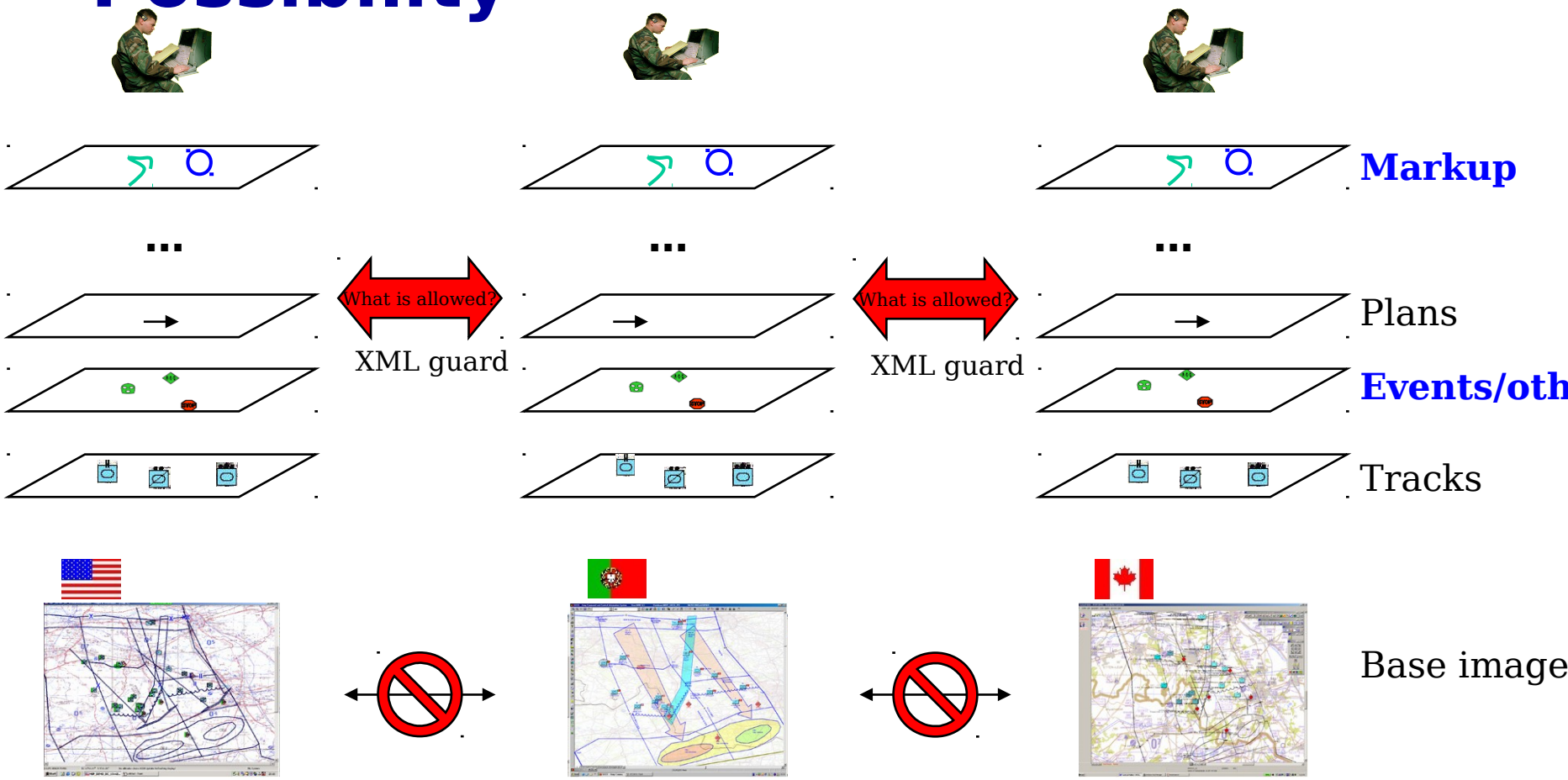
I don't want to deploy software in order to coordinate in a crisis. The most I have time to do is offer a URL, username, and password so I can accomplish my mission

LTC Randall Garcia, USNORTHCOM, J6 Information Officer,
HLS C2 ACTD Technical Exchange January 19, 2004

This desire is not unique to NORTHCOM…Our ACTD experiences confirm the basic requirement is for rapid connectivity and interactivity, often with unanticipated partners, over the web

© 2004 The MITRE Corporation. All rights reserved

Cross Application Collaboration (and domain) is More than a Possibility



© 2004 The MITRE Corporation. All rights reserved